

Supplementary Information

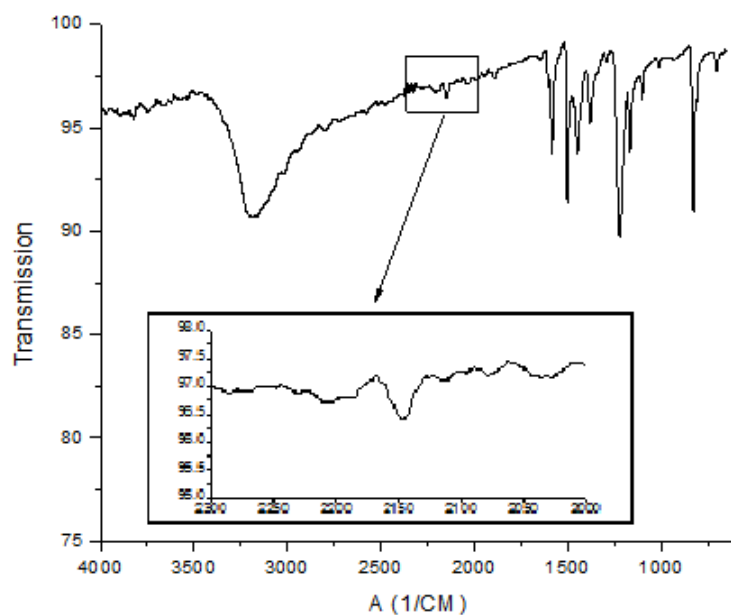


Figure S1. FTIR spectrum of BDDP, showing the weak ethynyl stretching absorption at 2150 cm^{-1} .

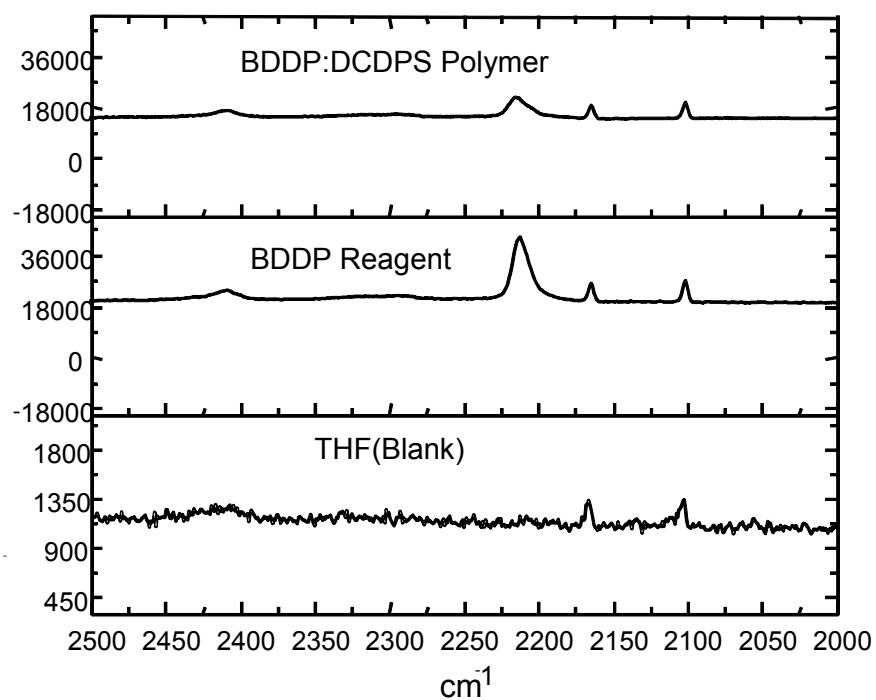


Figure S2. Raman spectra of BDDP and BDDP:DCDPS polymer, with THF blank overlaid for comparison.

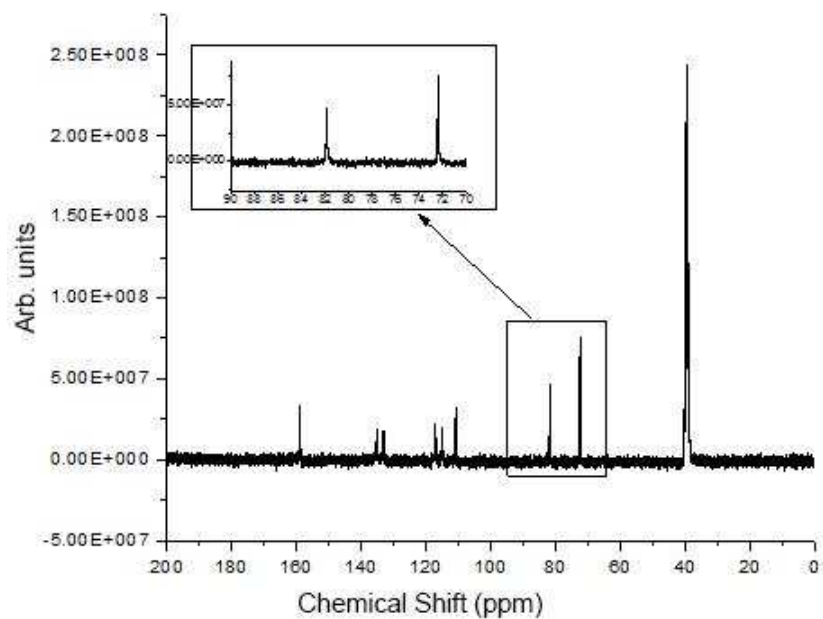


Figure S3. ^{13}C NMR of BDDP monomer, showing the acetylenic carbon signals at 81.8 and 72.4 ppm.

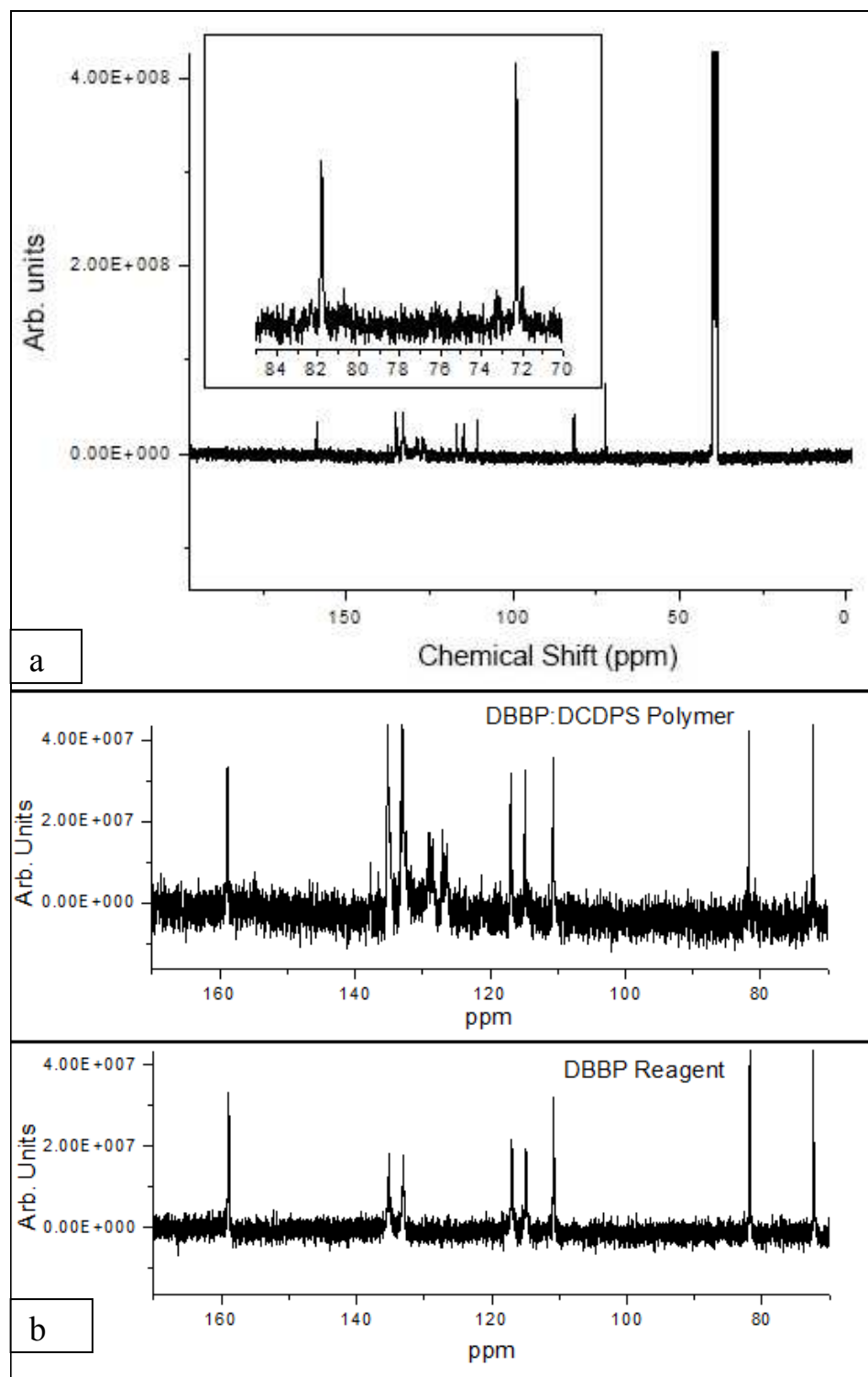


Figure S4. a. ^{13}C NMR of DCDPS:BDDP polymer, in deuterated DMSO. The inset graph shows the acetylinic peaks. b. Comparison of ^{13}C NMR of the BDDP reagent and the polymer, showing the additional aromatic bands in the polymer sample.

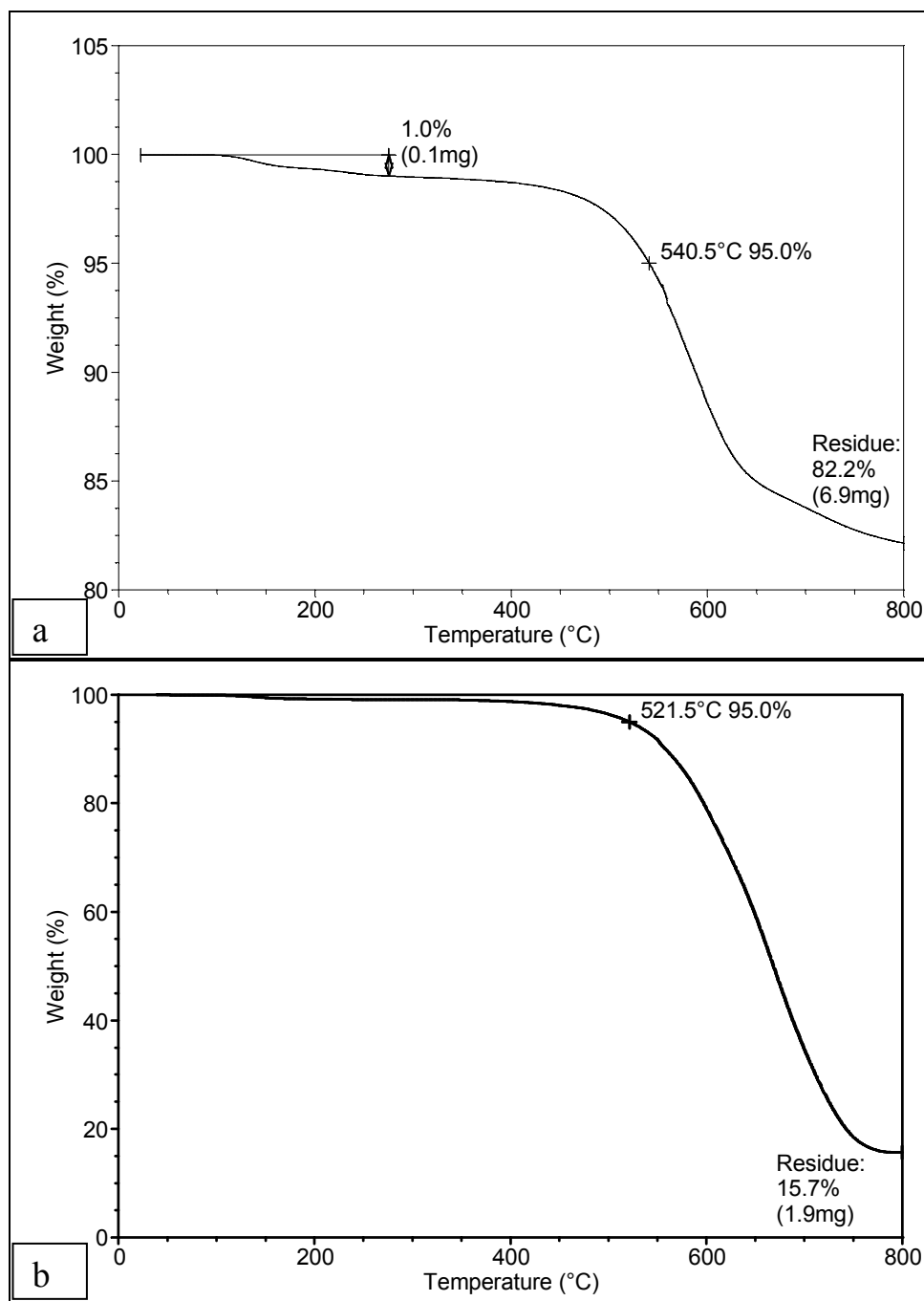


Figure S5 a. TGA of DCDPS-BDDP polymer in nitrogen. b. TGA of DCDPS-BDDP Polymer in air.

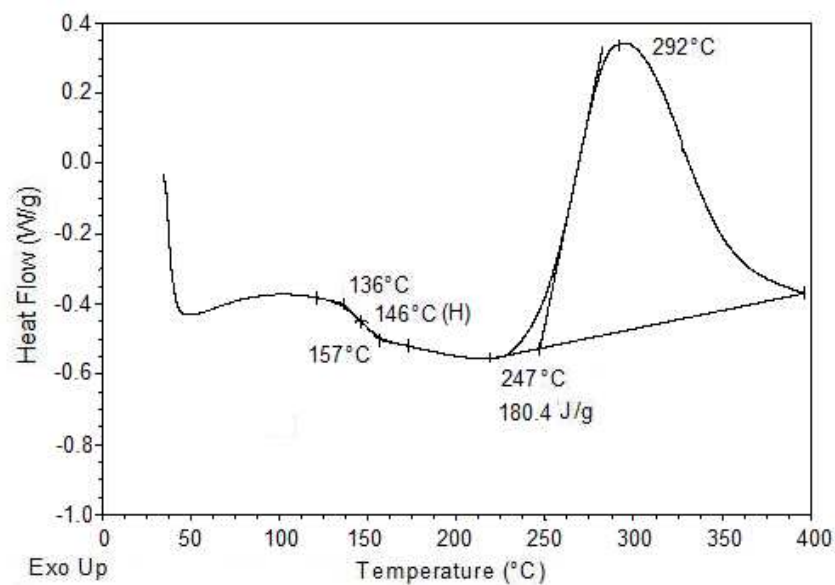


Figure S6. DSC curve of partially cured DCDPS:BDDP polymer.

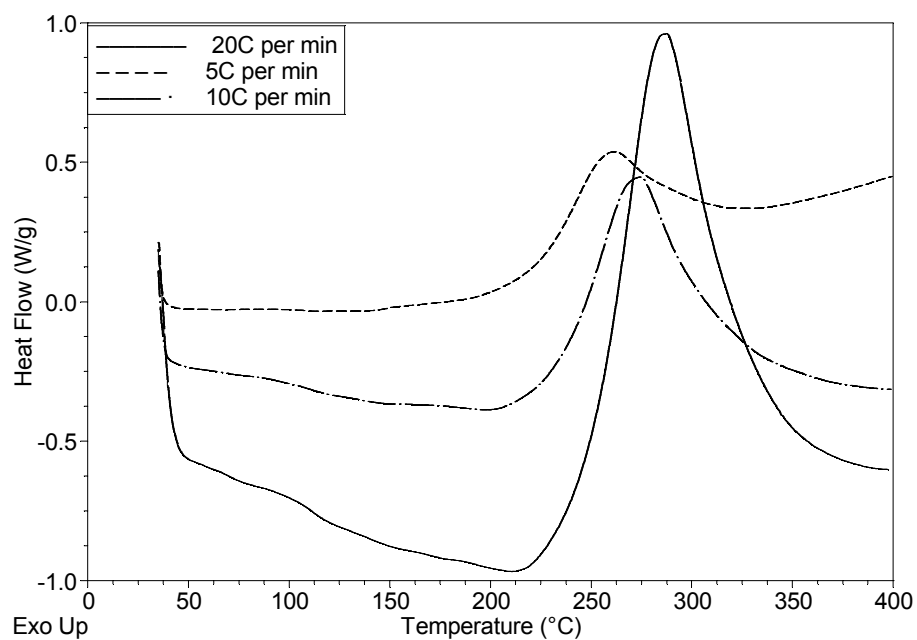


Figure S7. DSC scans of the polymer at 5, 10 and 20 °C per minute.

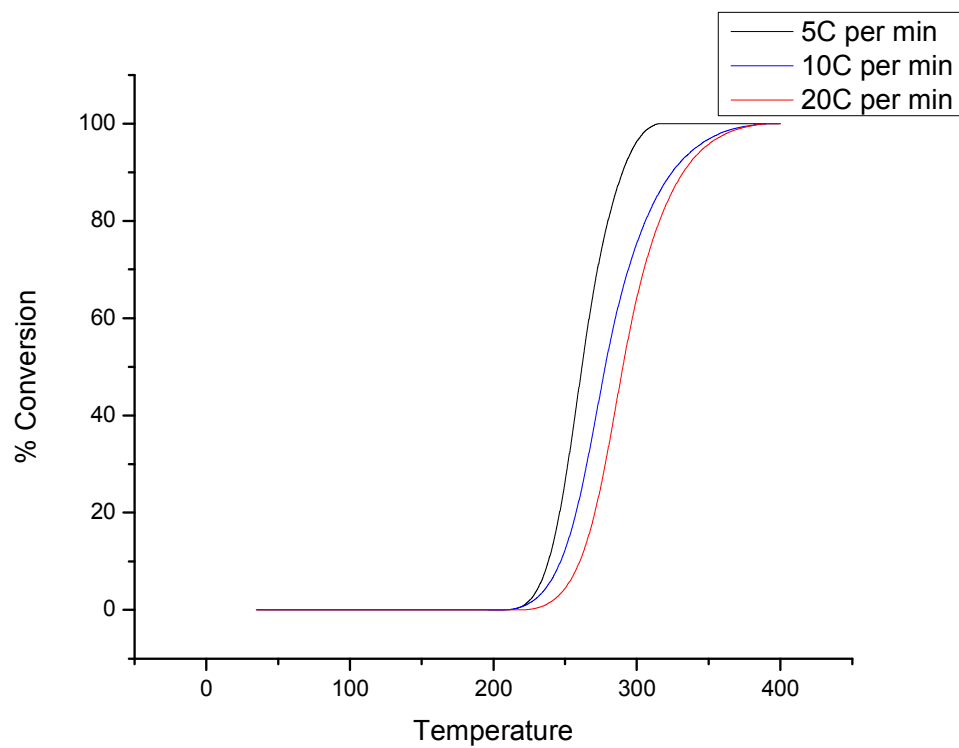


Figure S8. Conversion plots of the polymer at 5, 10 and 20 °C per minute.